



Tillered Apparatus Operations Course Plan

Course Details

Certification:	Fire Apparatus Driver/Operator – Tillered Apparatus
CTS Guide:	Fire Apparatus Driver/Operator – Tillered Apparatus (August 2015)
Description:	This course provides information on operating a fire department aerial apparatus equipped with a tiller. Topics include practical driving exercises; and operating, positioning, and stabilizing the apparatus from both the tractor and tiller positions. This course is based on the 2014 edition of <i>NFPA 1002 Standard for Fire Apparatus Driver/Operator Professional Qualifications</i> .
Designed For:	Career and volunteer fire service personnel who drive and operate a tillered apparatus
Prerequisites:	Successfully completed OSFM Fire Fighter I training Fire Apparatus Driver/Operator 1A (2015 or 2008 curriculum) Hold a valid Class C Firefighter Endorsed driver's license (minimum)
Standard:	Complete all activities and skills Complete the summative test with a minimum score of 80%
Hours:	Lecture: 11:00 Activities: 1:00 Skills: 27:00 Testing: 1:00
Hours (Total):	40:00
Maximum Class Size:	30
Instructor Level:	This courses requires one (1) primary instructor and sufficient assistant instructors to meet the skills ratio
Instructor/Student Ratio:	Lecture: 1:30 Skills: 1:10

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Restrictions: Sufficient fire apparatus and adequate space to accommodate the students in the class and the required skills

SFT Designation: CFSTES

Required Resources

Instructor Resources

To teach this course, instructors need:

- *Fire Apparatus Driver/Operator*, Second Edition, Jones & Bartlett, ISBN: 9781284026917
- Manufacturer's specifications and requirements

Online Instructor Resources

The following instructor resources are available online at

<http://osfm.fire.ca.gov/training/SFTCurriculum>:

- Tillered Apparatus Operations Required Activities

Student Resources

To participate in this course, students need:

- *Fire Apparatus Driver/Operator*, Second Edition, Jones & Bartlett, ISBN: 9781284026917
- Personal protective clothing

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

- Standard learning environment or facility
- Writing board or paper conference pads
- Markers, erasers
- Computer or tablet with presentation or other viewing software
- Amplification devices
- Projector and screen
- Sufficient aerial apparatus equipped with a tiller to accommodate the students in the class
- Qualified fire apparatus driver/operator
- Spotter
- Tape measure
- Delineators
- Traffic cones
- Vertical obstacle
- Left front tire marker
- Optional straight line marker
- Adequate space to accommodate required skills

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
 - Restroom locations
 - Food locations
 - Smoking locations
 - Emergency procedures
2. Identify classroom requirements
 - Start and end times
 - Breaks
 - Electronic device policies
 - Special needs and accommodations
 - Other requirements as applicable
3. Review course syllabus
 - Course objectives
 - Calendar of events
 - Course requirements
 - Student evaluation process
 - Assignments
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. What is a formative test? What is a summative test?

Activities

1. To be determined by the instructor.

Topic 1-2: Fire Apparatus Driver/Operator – Tillered Apparatus Certification Process

Terminal Learning Objective

At the end of this topic, a student will be able to identify the courses and requirements for the Fire Apparatus Driver/Operator – Tillered Apparatus certification, and be able to describe the certification task book and testing process.

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Enabling Learning Objectives

1. Identify the courses required for Fire Apparatus Driver/Operator – Tillered Apparatus
 - Driver/Operator
 - Tillered Apparatus Operations
2. Identify any other requirements for Fire Apparatus Driver/Operator – Tillered Apparatus certification
 - OSFM certified Fire Fighter I
 - Experience [one (1) of the following two (2) options]
 - Option 1: Have a minimum of one (1) year full-time, paid experience in a California fire department with the primary responsibility of operating a tillered apparatus
 - Option 2: Have a minimum of two (2) years volunteer or part-time, paid experience in a California fire department with the primary responsibility of operating a tillered apparatus
 - Be appointed to the rank or position of Fire Apparatus Driver/Operator
 - Performing in an acting capacity does not qualify
3. Describe the certification task book process
 - Complete all prerequisites and course work
 - Submit application and fees to request certification task book
 - Complete all job performance requirements included in the task book
 - Must have identified evaluator verify individual task completion via signature
 - Must have Fire Chief or authorized representative verify task book completion via signature
 - Must be employed by a California Fire Agency in the position prior to submitting completed task book to State Fire Training
4. Describe the certification testing process
 - Complete course work
 - Schedule online certification test
 - Schedule skills evaluation test

Discussion Questions

1. How many courses are there in the Fire Apparatus Driver/Operator – Tillered Apparatus certification track? What are they?

Activities

1. To be determined by the instructor.

Unit 2: Operations

Topic 2-1: Perform the Practical Driving Exercises

Terminal Learning Objective

At the end of this topic, a student, given an aerial apparatus equipped with a tiller, qualified tillered apparatus driver/operator, spotter, manufacturer's specifications and requirements,

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and policies and procedures of the jurisdiction, will be able to perform the practical driving exercises specified in NFPA 1002 Paragraphs 4.3.2 through 4.3.5 without striking the apparatus or obstructions.

Enabling Learning Objectives

1. Discuss the principles of tiller operations
 - From tractor position
 - From tiller box position
2. Describe the tiller operator's responsibility
3. Identify the methods of communication with the apparatus driver/operator
4. Explain the effects on tiller control of general steering reactions
 - From tractor position
 - From tiller box position
5. Describe manufacturer's operation limitations
6. Determine a correct position for the tiller
7. Maneuver the tiller into the correct position
8. Communicate with the apparatus driver/operator
9. Avoid obstacles to operations

Discussion Questions

1. What is your objective when steering?
2. How does the responsibility of the tiller operator differ from the apparatus driver/operator?
3. How do the tiller operator's movements affect the apparatus driver/operator's control of the apparatus?
4. How many rotations of the tiller steering wheel to the left or right before reaching the stop?
5. Who is responsible for backing?
6. While backing, where should you position your hands on the steering wheel?
7. When should you communicate?

Activities

1. Activity 2-1-1: Serpentine
2. Activity 2-1-2: Cul-de-sac Turnaround
3. Activity 2-1-3: Station Parking
4. Activity 2-1-4: Diminishing Clearance

Instructor Note:

1. Personnel being trained in the tiller box should also have the opportunity to operate the tractor.

CTS Guide Reference: CTS 1-1

Topic 2-2: Operate a Tillered Apparatus

Terminal Learning Objective

At the end of this topic, a student, given an aerial apparatus equipped with a tiller, qualified tillered apparatus driver/operator, spotter, and a predetermined route on a public way, will

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be able to operate an aerial apparatus equipped with a tiller over a predetermined route on a public way using the maneuvers specified in Paragraph 4.3.1 while in compliance with all applicable state and local laws, and policies and procedures of the jurisdiction.

Enabling Learning Objectives

1. Explain the effects on tiller control during night driving and negotiating intersections
2. Operate the communication systems between the tiller operator's position and the driver's compartment
3. Operate passenger restraint devices
4. Maintain control of the tillered apparatus while accelerating, decelerating, and turning
5. Operate the tillered apparatus during nonemergency conditions
6. Operate under adverse environmental or driving surface conditions

Discussion Questions

1. What are your considerations when negotiating intersections?
2. What should be some of your concerns when operating on a roadway?
3. How do you align the tractor and trailer when operating at night?
4. How do you communicate to the apparatus driver/operator that you need to stop?

Activities

1. Divide students into small groups. Have each group review a tillered apparatus accident and develop recommendations for preventing a reoccurrence? Have each group present their findings.

CTS Guide Reference: CTS 1-2

Topic 2-3: Position and Stabilize a Tillered Apparatus

Terminal Learning Objective

At the end of this topic, a student, given an aerial apparatus equipped with a tiller, qualified tillered apparatus driver/operator, incident location, situation description, and assignment, will be able to position and stabilize an aerial apparatus equipped with a tiller.

Enabling Learning Objectives

1. Explain the principles of positioning and stabilizing an aerial apparatus
2. Determine a correct position for the tiller
3. Maneuver the tiller into the correct position
4. Avoid obstacles to operations

Discussion Questions

1. When would you angle the trailer out?
2. When do you leave the tiller box after arriving on-scene?
3. What responsibility does the tiller operator have for stabilizing the apparatus?

Activities

1. Activity 2-3-1: Position and Stabilize a Tillered Apparatus

CTS Guide Reference: CTS 1-3

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Time Table

Segment	Lecture Time	Activity/Skills Time	Total Unit Time
Unit 1: Introduction			
Topic 1-1: Orientation and Administration			
Lecture	0:30		
To be determined by instructor			
Topic 1-2: Tillered Apparatus Certification Process			
Lecture	0:30		
To be determined by instructor			
Unit 1 Totals	1:00	0:00	1:00
Unit 2: Operations			
Topic 2-1: Perform the Practical Driving Exercises			
Lecture	8:00		
Activity 2-1-1: Serpentine		*	
Activity 2-1-2: Cul-de-sac Turnaround		*	
Activity 2-1-3: Station Parking		*	
Activity 2-1-4: Diminishing Clearance		*	
Topic 2-2: Operate a Tillered Apparatus			
Lecture	1:00		
Recommended activity		1:00	
Topic 2-3: Position and Stabilize a Tillered Apparatus			
Lecture	1:00		
Activity 2-3-1: Position and Stabilize a Tillered Apparatus		*	
Unit 2 Totals	10:00	28:00	38:00
Lecture, Activity, and Unit Totals:	11:00	28:00	39:00

Course Totals

Total Lecture Time (LT)	11:00
Total Activity Time (AT)	1:00
Total Skills Time (ST)	*27:00
Total Testing Time (TT)	1:00
Total Course Time	40:00

Note: Skills time will vary depending on the number of students in the program. It is important to remember that the suggested skill hours are for 30 students.